

CLAIMS

1. A method for screening for a compound that modulate fat storage in a mammal, comprising one of the following three steps:

- (i) identifying a compound which binds to RIP140 or to a RIP140 target protein;
- 5 (ii) identifying a compound which binds to a complex of RIP140 and a RIP140 target protein; or
- (iii) identifying a compound which modulates the binding interaction between RIP140 and a RIP140 target protein,

and further comprising the step of administering to a mammal a candidate compound identified in step (i), (ii) or (iii) and assessing its effect on fat storage in the mammal.

2. A method according to claim 1, wherein step (iii) comprises:

- a) mixing RIP140, the target protein and one or more candidate compounds;
- b) incubating the mixture to allow RIP140, the target protein and the candidate compound(s) to interact; and
- 15 c) assessing whether interaction between RIP140 and the target protein is modulated.

3. A method according to claim 2 comprising:

- a) contacting a cell containing a nucleic acid molecule comprising a promoter operatively linked to a reporter gene with: (i) a first fusion protein comprising one of RIP140 and a target protein fused to the activation domain of a transcription factor,
- 20 (ii) a second fusion protein comprising the other of RIP140 and a target protein fused to the DNA-binding domain of a transcription factor; and (iii) a candidate compound; and

- b) assessing the level of expression of the reporter gene,

wherein interaction between RIP140 and the target protein promotes transcription of the reporter gene by activating said promoter.

4. A method according to claim 1 wherein step (iii) comprises:

- a) contacting a nucleic acid molecule, comprising a target protein-regulated promoter operatively linked to a reporter gene, with one or more candidate compound(s) in the presence of said target protein and RIP140; and
- 30 b) assessing the level of expression of the reporter gene.

5. A method according to any one of claims 2 to 4, wherein the promoter controls transcription of a reporter gene with which it is linked in nature.
6. A method according to any one of claims 2 to 5, wherein expression of the reporter gene gives a detectable signal.
- 5 7. A method according to claim 6, wherein the reporter gene encodes a fluorescent protein, an enzyme, a toxic protein or cystostatic protein.
8. A method according to any preceding claim, wherein said method is carried out in a cell free system, a cell or a tissue.
9. A method according to any one of claims 2 to 8, wherein the nucleic acid molecule is in the
10 form of a non-viral vector.
10. A method according to any one of claims 2 to 9, wherein the step of assessing the level of expression of the reporter gene comprises measuring the level of mRNA transcribed from the reporter gene.
11. A method according to any one of claims 2 to 9, wherein the step of assessing the level of
15 expression of the reporter gene comprises measuring the level of protein translated after transcription of the reporter gene.
12. A compound that binds to RIP140 or to a target protein, obtained or obtainable by a method of claim 1.
13. A compound that binds to a complex of RIP140 and a target protein, obtained or obtainable
20 by a method of claim 1.
14. A compound that modulates the interaction between RIP140 and a target protein, obtained or obtainable by a method of any preceding claim.
15. A method according to any one of claims 1 to 11, or a compound according to any one of
25 claims 12 to 14, wherein the target protein is selected from AhR, ER, RAR, TR, RXR, VDR, PPAR, SF-1 and DAX-1.
16. A method or a compound according to claim 15, wherein the target protein is selected from PPAR α , PPAR γ and PPAR δ .
17. A method of assessing the effect of a compound according to any one of claims 12 to 14 on
30 fat storage, comprising administering the compound to a mammal and assessing its effect on fat storage.

18. A pharmaceutical composition comprising a compound according to any one of claims 12 to 14.
19. A compound according to any one of claims 12 to 14 for use as a medicament.
20. Use of a compound according to any one of claims 12 to 14 in the manufacture of a
5 medicament for treating or preventing a disorder associated with increased or decreased fat storage.
21. Use according to claim 19 wherein said disorder is obesity or anorexia.
22. A method of altering fat storage in a mammal, comprising administering a compound according to any one of claims 12 to 14, or a composition according to claim 17.